The Veterinary Record.

(*Founded by William Hunting, F.R.C.V.S., 1888.*)

No. 33. AUGUST 17, 1929. Vol. 9.

The Detection of Tuberculous Cows from Slaughterhouse Evidence of the Disease in Calves.

By H. L. Torrance, M.R.C.V.S., D.V.S.M. (Vict.), Veterinary Officer, Birkenhead.

In the *Veterinary Record*, No. 3, Vol. IX, a short article appeared on this subject by the same author, and as he has collected a considerable amount of relevant information and some interesting statistics since, the writer feels that he might be excused for making a short reference to the subject again.

An attempt to trace tuberculous cows from calves found infected with tubercle when slaughtered, was commenced in Birkenhead in August, 1927, and the present article is a short review of the results obtained from that date up to the end of June, 1929.

Table showing the Number of Calves Slaughtered, the Percentage Tuberculous, and the Percentage of Tuberculous Cows Detected.

Number of calves slaughtered from August, 1927, to June, 1929.	Number Tuberculous.	Percentage affected.	Number where effort made to trace infection.	Number of Tuberculous cows detected.	Percentage detected.
2,512	23	·9%	17	10	58·8%

In the previous article, the writer very much regrets that, owing to a clerical error, the percentage of calves affected with tuberculosis was given as ·09 per cent., which is, of course, quite wrong, the percentage being as stated in the above table, namely, ·9 per cent.

Considering the number of tuberculous calves where an effort was made to trace the infection, *viz.*, 17, the fact that only 10 tuberculous cows were detected might, at first sight, be thought to be a little disappointing. An examination of the methods usually adopted in tracing the infection will readily explain how this comes about.

Tuberculosis in the Calf.

Tuberculosis in the calf may be hereditary, congenital, or acquired. Hereditary tuberculosis in the calf is of such rare occurrence that it may be included, for the purpose of this article, with the congenital cases.

In the congenital cases the infection is widespread or generalised, lesions being found to distinguish it from acquired tuberculosis in the substance of the liver, spleen, and kidney. Numerous lymphatic glands are affected, depending on the extent of the infection; but the important lesions to indicate its congenital nature are those which show a blood infection. It may be worth noting here, that it is rather surprising when one finds lesions in the spleen, liver, and kidneys, to find so few or none at all in the lungs. The writer very tentatively suggests that this may be due to the fact that while the lungs are in a state of atelectasis, the liver and spleen, being very active, have a much greater blood supply and consequently are more exposed to infection. The mother of such a calf may or may not have a tuberculous udder, but she is certain to be extensively affected, and almost certain to have a tuberculous uterus, so that, in examining her clinically, besides a sample of the milk being taken, a swab of the uterine discharge, urine, fæces, and any available sputum should be collected for bacteriological examination.

One might suppose that a calf affected with congenital tuberculosis would be a miserable weed, but this is not by any means the case. The great majority look well nourished, strong, healthy calves, the disease being only revealed when the calf is slaughtered, and sometimes it is only noticeable then on very close and careful examination. The author feels convinced that many cases of tuberculosis seen in the abattoir in adult bovine animals were contracted before birth.

In acquired tuberculosis in the calf, as the mode of entry is usually the digestive tract, the lesions are to be found in the mesenteric and portal lymphatic glands. The disease may be more extensive, involving the bronchial and mediastinal lymphatic glands, but the oldest lesions are to be found in the mesenteric glands. It is very rare in these cases to find lesions in the liver, spleen, or kidney, and where they do occur it is reasonable to assume that the calf was a congenital case further infected after birth by consuming tuberculous milk. Where a cow suffering from generalised tuberculosis gives birth to a calf which she suckles, such a case can be readily understood.

Experience in this work has shown that tubercles can form in the mesenteric lymphatic glands in about 10 to 14 days. This opinion has been formed from following up the infection in calves showing lesions only in the mesenteric glands, and then obtaining a report of the *post-mortem* examination of the mothers from a veterinary surgeon. When one considers how rapidly an acute tuberculous mastitis can develop, this is not surprising.

The Examination of Calves in the Slaughterhouse.

At the present time one can only conclude that the *post-mortem* examination of calves is done satisfactorily in public abattoirs where a routine inspection of every animal slaughtered is carried out. In every calf slaughtered the retro-pharyngeal, mediastinal, bronchial, portal, and mesenteric lymphatic glands should be examined by making multiple incisions into them for tuberculosis, and the kidneys, liver and spleen should be closely scrutinised, and the spleen palpated for any tuberculous nodules and, if need be, incised. Unless such a procedure is carefully carried out by a skilled inspector, many cases of congenital tuberculosis will pass undetected, and few cases of acquired tuberculosis will be found. In these early cases, the lesions are of necessity very small and a considerable degree of

expertness is essential for their detection. In the case of private slaughterhouses where the meat inspector makes occasional visits during the hours of slaughter the results must be very unsatisfactory, and in those cases where, under the Public Health (Meat) Regulations of 1924, Article (9), the detection and reporting of the presence of disease or suspected disease in an offal or carcase to the sanitary authority is left to the butcher or slaughterman, with the exception of a few pronounced cases of congenital tuberculosis, none will be detected at all. The reason for this is obvious. The business of a slaughterman is not the detection of disease, but the dressing of carcases, and in many cases unless he accidently cuts into an abscess and is nearly drowned with pus, his powers of observation are extraordinarily poor. On the other hand, if he does notice some glaring abnormality, as a rule he can, quite satisfactorily to himself, explain it away, and there is no need to inform the local meat inspector.

Any movement, therefore, to attempt the detection of tuberculous cows from slaughterhouse evidence of the disease in calves on a large scale, would have to come from our large city and town abattoirs, and the author suggests that his results amply prove the necessity and justification for its adoption.

Tracing the Source of Infection.

In attempting to trace the infection to its source, one must necessarily begin by interrogating the owner of the calf or his agent at the time of slaughter. Where the calf has been brought direct from the farm where it was reared to the slaughterhouse, and they are both within the district of the same local authority, then the procedure is perfectly straightforward and simple, and the proportion of cows detected should be high and might easily represent a larger number than calves slaughtered, because, when one cow in a herd is suspected the whole herd ought to be examined, but this matter will be discussed later.

Most frequently one finds that the calf has been purchased from a public auction which is in the district of another local authority. As a rule the butcher knows the sale number of the calf, and this enables an inspector under the Diseases of Animals Acts to trace it to the person who sent it to the sale, and as a general rule this is the farmer concerned.

Occasionally the calf or calves may have been sent to the auction or the slaughterhouse by a dealer and these cases are sometimes disappointing, as a dealer's information proves frequently to be unreliable, owing very largely to the fact that he does not keep an accurate record of the calves purchased. He has no means of identifying a particular calf with the farm from which it was purchased, relying solely on his memory, and where he has a number about the same size, age, sex and colour, it is easy to understand how mistakes occur. But such instances form a very small proportion of the cases.

In tracing the infection, the auctioneer's records and the Movements of Animals (Records) Order of 1925, are invaluable. This order was specially designed for tracing the movement of animals in connection with outbreaks of foot-and-mouth disease, but its use in connection with the subject of this article is enormous and obvious.

It seems clear that where a calf, born or reared for a few weeks on a farm, is found tuberculous when slaughtered, it is definite evidence that at the time of its birth or soon after there must have been some source of infection on the farm—in all probability the mother or a cow with a tuberculous udder. At any rate, when the visit is made in an attempt to locate the responsible animal, she must (1) have died and been buried or destroyed; or, (2) have been sent to a knackers, or to a slaughterhouse; or, (3) been sold; or (4) still be on the premises.

Where no diseased cow is found on the premises, then it ought to be possible, by verifying the answers received to interrogation, to say fairly definitely what has happened to her.

When a person is slow to give information, or is unreliable, doubtful, ambiguous, or equivocates, one should not hesitate to enforce the Animals (Miscellaneous Provisions) Order of 1927, Article 12, Para. I, which is as follows:—"Every person who has, or has had in his possession or under his charge an animal affected with or suspected of disease, or any animal which has been in contact, or in the same stable, building, shed, field, or other place, with an animal so affected, or suspected, or which has otherwise been exposed to the risk of contagion or infection, and every person, who, as auctioneer or otherwise, has sold, or offered for sale, any such animal shall, if so required in writing, by the Ministry or the Local Authority, or an Inspector of the Ministry or of the Local Authority, give the Ministry or the Local Authority, or the Inspector, as the case may be, all such information as he possesses as to the animal and its movement, and as to the persons in whose possession or under whose charge it is, or has been, and any person who refuses to give such information, or gives false information shall according to, and in respect of his own acts and defaults, be deemed guilty of an offence against the Act of 1894: Provided that any information given under this Article shall not be available as evidence against the person giving the same in any prosecution under the Act of 1894, except in respect of an offence under this Article."

Where the diseased cow has been sold, then she ought to be traced and examined.

The following case illustrates the necessity for thoroughness in administering these measures:—A tuberculous carcase of veal was found in a butcher's shop, the meat inspector being informed that it had been sent by a butcher in the district of another local authority. When the consignor was questioned, he stated that he had received it from a farmer in the neighbourhood. The Chief Inspector, Diseases of Animals Acts, was then notified of the case in order that he might locate and deal with the diseased cow. In due course a reply was received to the effect that the mother of the diseased calf was sold at a public auction to a butcher and dealer, in the district of yet another local authority. As this was an inconclusive and unsatisfactory result, the veterinary officer to the local authority of the district to which the cow had been sent was informed, in an endeavour to ascertain whether the cow had completed her itinerary and, if so, if she were still alive to have her slaughtered. The reply stated that the butcher concerned had had three tuberculous carcases of cow beef condemned on certain dates which were given, but he could not say whether the particular cow concerned was one of them.

It will be observed that this cow was purchased at the auction by a butcher and cattle dealer. This is a point worthy of notice, because in the underworld of the meat trade this type of person is only too frequently a serious and grave menace to the public health.

Powers to Examine Herd.

There are three statutory measures giving a local authority power to examine any herd which contains or is suspected to contain a cow suffering from certain types of tuberculosis, namely :—

1. The Milk and Dairies (Consolidation) Act, 1915, Section IV, Para. 1—" If the Medical Officer of Health of any local authority has reason to suspect that tuberculosis is caused by the consumption of any milk which is being sold or exposed, or kept for sale within the area of the local authority, he shall endeavour to ascertain the source or sources of supply, and on ascertaining the facts shall forthwith give notice of them to the medical officer of health of the county or county borough in which the cows from which the milk is obtained, are kept, whether the dairy where they are kept is within or without the area of the local authority, unless the local authority are themselves the council of that county or county borough."

2. Tuberculosis Order of 1925, Article IV, Para. 1—" The local authority shall in every case where, by reason of information received under the preceding articles or otherwise, there is reasonable ground for supposing that on any premises in their District, there is a cow which is suffering from chronic disease of the udder or giving tuberculous milk, or a bovine animal which is suffering from tuberculous emaciation or suffering from a chronic cough and showing definite clinical signs of tuberculosis, direct a veterinary inspector with all practical speed to the diseased or suspected animal and any other bovine animals on such premises *which the veterinary inspector considers it desirable to examine* to ascertain whether any cow on the premises is suffering from tuberculosis of the udder," etc., etc.

3. Under the Diseases of Animals Act, 1894, Section 44, Para. 2—" An inspector may at any time enter any land or shed to which this Act applies, or other buildings or place wherein he has reasonable grounds for supposing :

(*a*) That disease exists or has, within fifty-six days, existed."

For our purpose the procedure under the Diseases of Animals Acts has many advantages. It is direct and very much more rapid, as there is no need to notify the farmer that the local authority intend to examine his herd, and so give the unscrupulous person the opportunity of concealing or disposing of the very cow which is the chief object of the visit—an occurrence which, the author regrets to say, is not by any means unknown. A Diseases of Animals Acts Inspector has power to examine the Records Book, and so obtain extremely valuable information which is not available to the official working under the Milk and Dairies (Consolidation) Act, 1915, except at the goodwill of the farmer. I am not suggesting that the owner or person in charge of the dairy herd commonly refuses to supply the desired information ; but when it is being withheld, it is very much more satisfactory to be in a position to demand it and examine the records. One occasionally meets people in this work so stupid that they require to be protected from themselves.

An inspector under the Diseases of Animals Acts has much wider and greater powers than an official appointed for the purposes of carrying out the Milk and Dairies Acts and Orders.

In a few instances a combination of these powers under different local authority officials has been used with success, but should not be necessary, as all the powers required are available in the Diseases of Animals Acts. The following case may be quoted as an example. A tuberculous carcase of veal was found in a public abattoir, and the Chief Inspector, the Diseases of Animals Acts, of the district where the calf was born and reared was informed. He traced the calf to a farm producing Grade " A " milk and replied to the effect that the herd was examined every three months by a veterinary surgeon. The local authority in whose district the tuberculous veal was found also received the milk from the same farm and the milk, when examined biologically, was positive. As a result, an examination of the herd was made under the Milk and Dairies (Consolidation) Act of 1915, and two tuberculous cows were detected, one suffering from a tuberculous udder and the other from pulmonary tuberculosis. This laborious procedure was commenced in August and terminated in November, fortunately of the same year, during which time the public consumed tuberculous milk simply because the Tuberculosis Order of 1925, Article IV, Para. 1, was not carried out. No blame could be attributed to the veterinary surgeon who examined the herd under the Milk (Special Designations) Order of 1923, as his examination was done early in July, and the tuberculous calf was slaughtered on the 29th August, giving ample time for the development of a tuberculous udder. Some of the apparent failures have resulted from the fact that the valuable assistance which our profession can render in these cases has not been sought. In some cases, the enquiry as to the existence of disease has been made by a member of the police force, and consisted of interrogating the owner and looking at the cow that may or may not have been the mother of the diseased calf.

In other cases where the veterinary surgeon, acting for the local authority under the Diseases of Animals Acts, has been called in, his advice has not been asked, or, if given, it has not been adopted, with the result that, instead of the entire herd being examined with all possible speed, after some quite unnecessary delay the supposed mother of the calf has been the only cow examined, which, in view of the object of the visit, is unsound.

The question of the number of bovine animals to be examined is a matter for the veterinary inspector, *vide* Article IV, Para. 1, of the Order. The importance of this provision in the Order is obvious. The following example accentuates it. A veterinary surgeon acting for the local authority was asked to visit a farm from which a tuberculous calf had been sent to a slaughterhouse. The lesions in the calf indicated that it had been infected through the alimentary tract. The farmer stated that the calf had only received milk from two heifers which, when examined, showed normal udders. On being closely interrogated, he remembered and admitted that the calf had had two sucks at the beastings of the mother. When examined she was

found to have a tuberculous udder. This is a particularly interesting case, as it shows that the calf was infected with only two sucks from the mother. The calf was about three weeks old and showed tuberculous lesions in the bronchial, portal, and mesenteric lymphatic glands.

The following case is cited to show what happened where the diseased calf had been traced to a particular farm, and the visit and enquiries to ascertain whether there was a cow suffering from tuberculosis as defined by the Order on the premises, were carried out by a police sergeant.

A carcase of veal, found tuberculous at a public abattoir, was reported to the Chief Inspector, Diseases of Animals Acts, of the district from which the calf was brought. The Chief Inspector replied to say that enquiries had been made, and the farmer concerned was not in possession of any cattle suspected of suffering from tuberculosis. The contrary would appear to have been the case, however, because reliable information was subsequently received to the effect that the mother of the calf was sold, a few days after the police officer's visit, to a bone merchant, who re-sold the cow to a butcher who slaughtered her. Unfortunately, the history ends here, but one can conjecture with a good deal of assurance what followed.

In following up these cases it is a matter of first-rate importance that the number of cattle to be examined should be left entirely to the discretion of the veterinary surgeon. In a number of cases where a veterinary surgeon was employed his advice was not asked and, where it was given, it was not adopted. In fact, in nearly every case he was instructed to examine the mother of the tuberculous calf and where she was found apparently healthy, and the veterinary inspector recommended that it was advisable to examine the herd, the investigation was discontinued.

In one instance a milk producer, milking a large number of cows, sent a tuberculous calf to the slaughterhouse. The Diseases of Animals Act authority in the district where the milk was produced asked their local veterinary inspector to examine the mother of the calf. The lesions in the calf indicated that the infection had been contracted through the digestive tract, and when the veterinary inspector made inquiries he found that the calf had been receiving the milk left on the farm after all the milk sold had been dispatched. He reported this to the chief inspector, who then decided that it was a matter for the Medical Officer of Health, and reported it to him. The Medical Officer of Health carried out an investigation under the Milk and Dairies (Consolidation) Act of 1915, the same veterinary surgeon being asked to examine the herd, and a cow suffering from tuberculosis of the udder was found.

It will be seen from the foregoing that many of the failures can be directly attributed to faulty administration of the Diseases of Animals Acts. In certain cases this is due to lack of knowledge of the possible sources of infection to the calves. It is well known to veterinary surgeons and stock owners that in certain cases when a tuberculous cow calves the disease becomes aggravated, and the owner at this stage frequently disposes of the cow to the best advantage and sends the calf to the butcher. Laymen cannot be expected to possess the amount of technical knowledge necessary for this highly specialised work, and one can readily excuse them on these grounds, but where that knowledge is available and can be obtained by consulting a veterinary surgeon, and they do not do so, then their negligence may have very serious consequences indeed to the milk- and meat-consuming public.

Magistrates' "Serious Warning" (!) to Farmers.

In forwarding the following report from a local paper of a summons heard in the Sherburn-in-Elmet Court in July, a correspondent writes:—

"The cow in question, when examined under the provisions of the Tuberculosis Order, 1925, was valued at £1, to which the owner agreed; but I only mention this to show the type of animal.

"Comment is superfluous, but, despite so much being done by Public Health Authorities to ensure a safer milk supply, one cannot wonder that more diseased animals are not reported by farmers when such an attitude as this is taken by Magistrates."

. . . . . .

James Baker, farmer, of Little Fenton, was summoned for failing to report a case of induration of udder in a cow. Mr. Furniss defended.—Supt. Aspinall pressed the case, and said nobody could estimate the harm which might be done by the distribution of milk from the cow.

Mr. Furniss took objection to the summons, which, he said, did not constitute a statutory offence. It was not open to the police to constitute an offence by paraphrasing a statute. He would agree to the summons being amended. The Chairman ascertained that it was admitted that the milk from the cow had been distributed, and the Magistrates agreed to the summons being amended.

James A. Dixon, chief veterinary inspector of Leeds, said that on July 1st at Whitkirk Auction Mart defendant had a cow in milk. Witness saw it in a stall and noticed it was extremely emaciated. On examination he found extensive induration of the udder—a hardening—and distinct symptoms of tuberculosis in other parts of the body. The udder was greatly enlarged, parts being twice the normal size. The diseased condition was very obvious, and the cow was a subject of amusement and jokes among the butchers present. Witness served the notice requiring the removal of the cow from the market.—Cross-examined, witness said the cow had obviously suffered from tuberculosis for several weeks, and any veterinary surgeon who saw the cow that day would agree it had the disease. He would back his opinion against whatever evidence was called, and would tell anybody they did not know what they were talking about if they said there was no tuberculosis in the cow on July 1st.

Simon Sharp, veterinary inspector for the West Riding County Council, of Boston Spa, said he visited defendant's premises on July 2nd and examined the cow which had been sent back from the Mart. He examined it and found it was emaciated, the udder being huge and part as hard as stone. The cow coughed several times. He took a sample of the milk and found it full of tuberculosis bacilli. The cow was destroyed, and in his opinion the udder had been visibly affected for three or four months.

Defendant said he had been distributing milk from the cow, which he got in February. Quite a number of cows had been turned out of markets under the Tuberculosis Order. For the defence, Mr. Furniss referred to defendant's qualifications, and said the cow was sent to market as it dropped off milk and another milker was required for the business. He posed as a first-class scientific farmer, and nothing was discovered to be wrong with the cow by a veterinary surgeon in May. He thought the case was grossly over-rated by the officials.

Baker stated that he held the National Diploma in Agriculture, and had done a full course at Leeds University under Col. Bowes. The cow calved in April and a calf was sold to Mr. Wainwright at Sherburn. The cow dropped her milk yield in May, but there were no signs of emaciation, and it ate well. Witness milked the cow, and there was no suggestion of hardness. He wanted to dispose of the cow to get a better milker, and could have got rid of the beast through private channels rather than send it to a public market if it was

obvious that disease was existent. Last year witness obtained a certificate of proficiency as a judge at the Yorkshire Show. Under his system witness sold a cow when its milk yield fell off.—Cross-examined, witness said the cow milked perfectly normally. He suggested that the statement of the officials that something was visibly wrong was not correct.—John Turner, an assistant on the farm, and a holder of the National Diploma, said he milked the cow and noticed nothing wrong with it within ten days of it going to market. He considered the beast perfectly healthy, and there was nothing wrong with the udder.—George Jackson, the cowman, said the cow always milked properly. The milk had been used on the farm and for customers.

Charles Kitson, farmer, of Scunthorpe, another diploma holder, said he examined the cows on the farm on June 1st, and there was nothing abnormal among them.—Albert Rainbow and David Greenwood, farmers, of Little Fenton, gave similar evidence.

Richard Hayes, M.R.C.V.S. said he had visited defendant's farm professionally in May and found nothing wrong with the cows, which all looked good milkers. Baker was a very interested farmer and would not have sent the cow to market if he knew anything was wrong. He did not see the cow when it was returned from Whitkirk. If induration was present he could not understand why two qualified men should fail to discover it.

The Chairman announced that the Magistrates had discussed the case thoroughly, and it was the first case of this kind under the Act. They had decided to dismiss the case and wished it to be a serious warning to farmers to take great care that anything of this sort should be reported in the future.

Correction.

Page 674, August 10th, words "*on the left side*," first line of Mr. Stinson's "Observation 4" should be omitted.

Tuberculosis Order Delinquent Heavily Fined.

That some Benches of Magistrates are alive to the importance of dealing sternly with those who pursue the selfish and dangerous course of neglecting to notify their tuberculous animals, was evidenced at Droxford Petty Sessions, recently, when, for this offence, William Clay, of Horndean, was fined £20, with £2 6s. costs.

Control of Liver Fluke Infestation.

The statement that the disease of liver fluke caused the loss of 60,000 sheep in the four Northern counties of Wales in the winter of 1920-21, was made by Dr. Montgomerie at the annual conference of the National Sheep Breeders' Association at Harrogate.

Dr. Montgomerie, who also recalled that in 1879-81 the disease ravaged our flocks to the extent of 3½ millions, is veterinary adviser to the agricultural department of Bangor College, North Wales, and was largely instrumental in devising means to control the disease in that part of the country. This he did by interrupting the life cycle of the peccant parasite, the fluke.

As showing the value of the work done, Dr. Montgomerie told how an Irish correspondent declared that the sheep on his mountain were 10s. a head better than those on adjoining hills not dosed, and that in the Island of Shetland 35,000 sheep were dosed in the winter of 1927-28 without a single fatality and that in the past winter 70,000 sheep were treated.—*Preston Guardian.*

The Veterinary Record.

17th August, 1929.

MAGISTRATES AND NOTIFICATION OF DISEASE.

In the current issue we publish a Court case report and extracts from a letter from a correspondent (sent in connection therewith) drawing attention to the decision of a Bench of Magistrates who dismissed a summons against a farmer for failing to notify an emaciated cow suffering from advanced tuberculosis with, at the same time, a greatly enlarged and indurated quarter of the udder, although they admitted that the offence had been committed and was a serious one. The offence in point was even aggravated in that the farmer had exposed the animal for sale in a market, and this, too, in the area of a different local authority from that in which his farm was situated.

Prosecutions are always unpleasant proceedings, and should only be instituted in clear cases where investigation shows that gross negligence, or worse, has taken place. To bring a summons against a farmer merely because a cow with tuberculosis of the udder is found in his possession would be manifestly unfair, for it is well known that many such cows show so little abnormality that it is unreasonable to expect the average farmer to notice so slight a deviation from the normal. On the other hand, the symptoms may be so glaring as to be evident to the merest tyro, and to continue to use milk from such an animal, or even to keep her for suckling calves, is nothing less than criminal.

It cannot be too often pointed out to stockowners that they are not expected to be expert diagnosticians, but that when signs of some notifiable disease are present, it is their duty either to report it to an officer of their local authority or to call in their veterinary surgeon to advise them. Local authorities are, on the whole, doing their best to carry out the Orders issued by the Ministry of Agriculture, which Orders are always made in the interest of the public in general, and of the agriculturist in particular.

In some districts the magistrates always take a serious view of concealment of disease once it is proved, and yet in others, findings similar to that complained of by our correspondent, are only too common. Local authorities cannot be expected to bring

delinquents before the Courts if their efforts are frustrated in so flagrant a manner. As showing the different attitude taken by magistrates, it has come to our knowledge that during the same week, and in the same county in which the case reported was tried, two farmers were fined £25 for failing to keep a Record of Movement of their cattle and, shortly before, a butcher had to pay £10 for having 3½ lbs. of liver affected with fluke disease exposed for sale on a cart. Yet the farmer in the case in point was allowed to get off with only a warning, for having kept for milk, and then tried to sell, an emaciated cow excreting tubercle bacilli in such numbers in her milk that they were easily found on a rapid microscopic examination of the milk sediment. Local authorities have at different times impressed on magistrates the necessity of imposing more serious fines in such cases, with apparently very varying effect, and it would seem to be a great travesty of British justice—of which we are all, and rightly so, proud—if one man is allowed to break the law with impunity simply because he lives in one district, while his neighbour, because by chance he lives in another, is heavily fined for a similar or even a lesser offence.

The same arguments apply to sheep scab, to which the Ministry of Agriculture have recently called attention, and to all other infringements of the Diseases of Animals Acts and Orders. Many farmers report suspected cases of disease on the slightest suspicion, and it is no encouragement to them to continue to do so, and quite possibly lose financially by their honesty, when they see their neighbours, who have tried unsuccessfully to escape the vigilance of the authorities, practically exonerated by the Bench. Such a decision as this, when reported in the Press, cannot conduce to the public drinking more milk with an easy mind; whereas, if they can be made to see that farmers themselves, assisted by the public health authorities and the magistrates, are doing all in their power to secure a purer milk supply, and that any transgressor is severely dealt with, the result would be all in the farmer's favour.

NEW DIRECTOR-GENERAL, ARMY VETERINARY SERVICES.

Colonel W. S. Anthony, C.M.G., has been selected for the appointment of Director-General, Army Veterinary Services, the War Office, with the rank of Major-General, with effect from December 1, 1929, in succession to Major-General H. T. Sawyer, C.B., D.S.O.

. . . . . .

LONDON GAZETTE. WAR OFFICE. MILITIA.

August 2—Capt. W. J. E. McKenzie, M.C., relinquishes his commn. (Aug. 1), and is granted the hon. rank of Maj.

CLINICAL AND CASE REPORTS.

Multiple Necrotic Lesions in the Heart of a Cow.

By T. J. BOSWORTH, B.Sc., M.R.C.V.S., D.V.S.M.
Department of Animal Pathology,
Cambridge.

Early in April last a portion of a cow's heart was received for examination from G. M. Vincent, Esq., M.R.C.V.S., Sutton, Surrey, together with the history of the case and a report on the *post-mortem* examination, as follows:—

The animal was a cross-bred Jersey-Devon cow, five years old, and in good condition. She had given birth to her third calf six weeks previously, and in the meantime had appeared in perfect health and had yielded from three-and-a-half to four gallons of milk per day. She was taken ill on the 27th March. Symptoms were loss of appetitie, complete cessation of milk secretion, and marked constipation with the passage of a small quantity of excreta very dark in colour, and somewhat resembling horse fæces in appearance. The animal was dull and listless, and seemed rather unsteady on her legs. Temperature was normal, pulse and respiration accelerated, extremities very cold. The rumen did not appear to be distended. Although this was the only animal affected in the herd, the owner was inclined to attribute the illness to the feeding of overheated hay.

The condition was diagnosed as being, in all probability, a case of impaction of one of the stomachs, and treatment was carried out accordingly. Saline and oleaginous purgatives were administered, followed by doses of stimulants—ammonium carbonate, nux vomica and gentian. A temporary improvement in general condition was noted but the main symptoms persisted and the bowels did not resume their normal function. Weakness became more marked, the pulse and respiration increased in frequency and an occasional grunt was heard. On 31st March it was decided to destroy the animal and make a *post-mortem* examination. A small tuberculous lesion of the size of a walnut was present in the left lung near its lower border. The pericardium was very thickened and firmly adherent throughout to the surface of the heart. The whole of the heart wall was studded with whitish lesions of various sizes. The stomachs were normal except that the reticulum contained a piece of wire about four inches long. This was lying quite free in the contents, and there was no indication that the wall had been perforated at any point.

The portion of heart received for examination showed well-marked necrotic areas scattered fairly regularly throughout the muscle tissue. Some of these areas were visible from the pericardial and others from the endocardial surface. They were yellowish-white in colour, irregular in shape with somewhat uneven edges, and varied in size from that of a lentil to that of a broad bean. Their consistence was about that of normal cardiac tissue, and their aggregate volume was equal to well over one-third of that of the total heart muscle. Evidence of reaction at the margin of these areas was not very marked.

Examination of smears prepared from the lesions showed the presence of numerous slender, gram-negative, filamentous organisms similar in appearance to *B. necrophorus*. As the specimen had been fixed in preservative, a cultural

examination was impracticable. Histologically, the affected areas showed complete necrosis of the muscle fibres, together with a cellular infiltration. The cells present were chiefly polynuclear and endothelial leucocytes, together with a few eosinophiles. In the central part of the area the substance of the necrotic muscle was very granular in appearance and the fibres themselves were partially broken down. Organisms were present throughout the necrotic tissue, but were most numerous around the edges of the lesion, where they appeared as filamentous masses lying between the muscle fibres and apparently growing outwards into the healthy tissue. In this zone there was well-marked leucocytic infiltration. Evidence of fibroblastic proliferation could be seen at places within and around the affected areas.

COMMENT. It would appear to be reasonable to assume that the pericardium became invaded by extension of infection from one of the peripheral areas in the wall of the heart. The distribution of the lesions in the heart muscle is hardly consistent with the view that infection may have travelled in the opposite direction. The muscle lesions, themselves, were no doubt secondary to a focus of infection situated elsewhere in the body but, unfortunately, the exact location of the primary focus remains uncertain.

FIG. I.

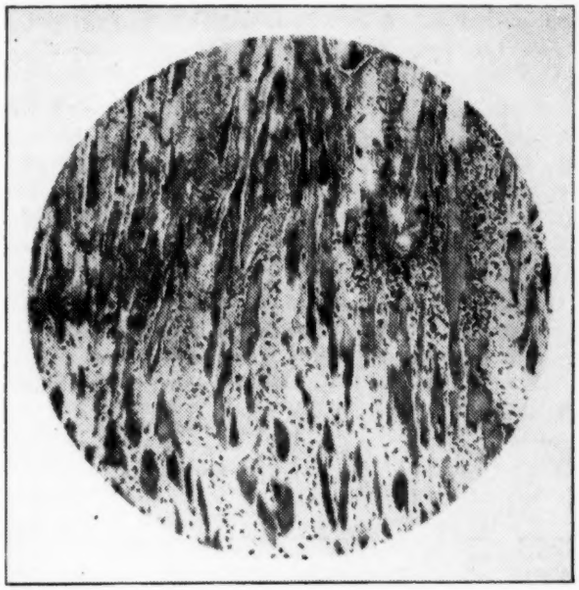

FIG. II.

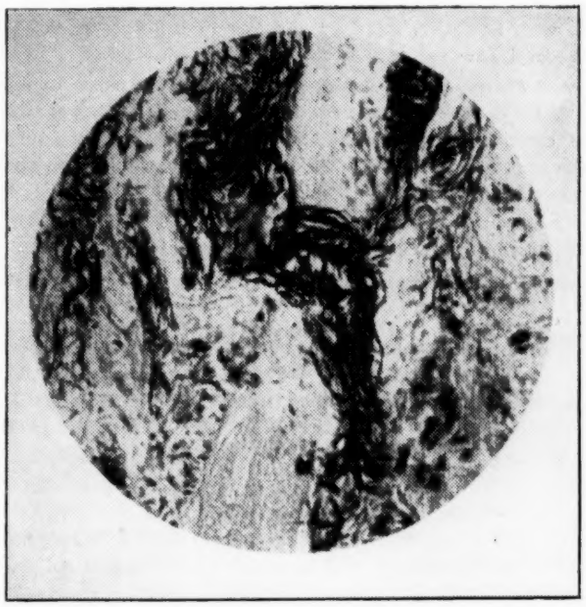

FIG. III.

DESCRIPTION OF FIGURES.

Fig. 1. Shows the gross appearance of the lesions in a section of heart muscle.

Fig. 11. Section of heart muscle through the edge of a lesion showing zone of reaction with necrotic tissue above. Hæmatein and eosin. Magnified 65X.

Fig. III. The same more highly magnified showing feltwork of organisms between the muscle fibres. Methylene blue. Magnified 750X.

Clover Poisoning(?)

By F. CHAMBERS, O.B.E., F.R.C.V.S.,
Wolverhampton.

The subject was a thirteen-year-old roan pony mare that had been in the owner's possession for ten years. On July 20th a quantity of green clover was purchased and fed to the pony three times daily. As far as I could ascertain, the quantity given would be about six pounds at each meal.

On the morning of July 23rd the owner could not get the pony out of the stable. She was very stiff all over. Respirations were normal. Temperature 99.4° F. The pulse was most irregular and fluttering, this being rendered noticeable by the presence of a well-marked jugular pulse. After a lot of difficulty we managed to get the animal out of the stable. She stood with her legs spragged out and the tail cocked like a case of tetanus, only the mouth could be opened, and there was no protusion of the nictating membrane. The owner stated that the pony was not very well after eating clover last year.

Treatment consisted of a hypodermic injection of camphor-in-oil, and the administration of a draught of sp. ether nit. and potass. bicarb. at night. After the draught, the owner stated that she evinced a desire to eat, but when a bran mash was put before her she refused it. It was, however, gone by the next mornlng (July 24th). When I saw her again, twenty-four hours later, she was quite normal. The pulse was stronger and more regular, but there was still a slight jugular pulse. Temperature and respirations normal. She had defæcated well during the night and had eaten some hay as well as the bran mash mentioned before.

I have never seen such a rapid recovery from what was apparently a very serious case.

ABSTRACTS.

[Effect of Bacillary White Diarrhœa Infection on Egg Production. V. S. ASMUNDSON and J. BIELY (*Poultry Sci.*, 7 (1928), No. 6, pp. 293-299, fig. 1). *Expt. Sta. Rec.*, Vol. 60, 1929.]

The results reported in this article from the University of British Columbia, Canada, are based on the data obtained from the egg records of 358 pullets of 6 breeds kept under similar conditions. These pullets had not been culled, and 16.2 per cent. reacted to the agglutination test for bacillary white diarrhœa.

The difference in egg production in favour of the non-reactors was 53.43±5.34 eggs, a statistically significant difference. When the birds were divided into classes according to egg production, it was found that 36.2 per cent of the reactors and 7 per cent. of the non-reactors laid 149 eggs or less; 48.3 per cent. of the reactors and 39 per cent. of the non-reactors laid from 150 to 224 eggs; and 15.5 per cent. of the reactors and 54 per cent. of the non-reactors laid 225 eggs or more. The variation in egg production was somewhat greater with the reactors than with the non-reactors, as indicated by the standard deviation of 10.58±3.78 eggs and the coefficient of variation of 13.1±2.46 per cent. The first year egg production for the reactors ranged from 9 to 283 eggs and for the non-reactors from 4 to 305 eggs. This variability in egg production indicates that culling low-producing birds would not eliminate from an infected flock all of the bacillary white diarrhœa reactors.

[Intensified Action of Soporifics. K. STEINMETZER (*Arch. exper. Path. and Pharm.*, 1928, Vol. 135, 3-4). Ex. *Pharm. Jour.*]

An addition of small quantities of antipyretic remedies, phenazone, pyramidon, and quinine, intensifies in a marked degree the effect of soporifics not only in the case of paraldehyde and chloral hydrate which act on the cerebral cortex, but also on veronal-sodium which affects the crusta. This reinforced effect is brought on only by the addition of small quantites of antipyretics; definite proportions between antipyretic and soporific are required to produce the best effect, the soporific action drops quickly when the anti-pyretic is increased. As anti-pyretics given alone cannot produce sleep, whilst they are capable of rendering ineffective doses of soporifics effective, a genuine increase of efficiency must be assumed.

[Ethyl Alcohol as a General Anæsthetic. J. D. CONSTANTIN (*Lancet*, 5520, 1247, 1929). Ex. *Pharm. Jour.*]

The method of using ethyl alcohol as a general anæsthetic consists in administration intravenously of the alcohol of 90 per cent. purity in a solution of glucose. Dr. Marin, of the Military Hospital, Mexico City, who introduced this anæsthetic, only did so after 700 operations on animals. Some 300 patients have now been anæsthetised successfully by his method. His reason for using ethyl alcohol is that it dissolves lipoids and penetrates by endosmosis the protoplasm of the nerve cells, hindering their metabolism. It is said to be 137 times less toxic than chloroform. Induction takes from two to fifteen minutes, and there is no initial stage of excitement such as may take place with inhalation anæsthesia. Surgical anæsthesia is reckoned to last an hour and a half, but may be prolonged, by giving more anæsthetic, up to four hours. The recovery is peaceful, and there are no ill-effects, such as vomiting. The patient may even be fed if the nature of the operation so permits. There is a period of post-anæsthetic analgesia that may last three to four hours or more. During the experimental stage there were instances of hæmoglobinuria, but this trouble was soon eliminated when isotonic solutions of glucose were employed, and the correct dilution of alcohol was adopted, thereby ensuring proper diuresis. Two sterile solutions are used, one in each container. These are (*a*) an isotonic solution of glucose, and (*b*) a solution of pure ethyl alcohol and glucose, viz. :—30 c.c. of 96 per cent. ethyl alcohol in 70 c.c. of a 25 per cent. solution of glucose.

Erratum.—In the report of the Meeting of the Yorkshire Division, held on April 26th last, appearing in our issue of August 3rd, under the discussion on Mr. Boutflour's paper, towards the bottom of column 1 of page 667, Major D. S. Rabagliati is reported to have said: "With the average dairy system in this country an enormous number of calves were born at sales." What he actually said was: "Under the average dairy system in this *county* an enormous number of newly-calved cows were bought at sales."

REPORT.

Live Stock Diseases Control in New South Wales.*

One has not to read far in his account of the live stock diseases control work of the Department of Agriculture, New South Wales, in which he officiates as Chief Veterinary Surgeon, before one finds Mr. Max Henry voicing the plaint common to all those who occupy similar commands in the small but efficient army of veterinarians in the Colonies: "There is still great difficulty in obtaining sufficient veterinary surgeons to fill all positions, and only the timely arrival of several English graduates has enabled the Department to carry on." Mr. Henry has been better circumstanced in this respect than some of his responsible colleagues in other parts of the Empire, for he is able to say:—

"The year showed a continuance of previous activities, and an indication of further progress in various directions as arrangements were finalised towards the end of the year for an increase in staff on the research side and additional officers were appointed on the field staff. The time of the additional officers was immediately fully taken up with work which was in abeyance or which was only awaiting the appointment of additional staff to be undertaken."

The staff changes reported are of interest. Approval was obtained to appoint a district veterinary officer to be stationed at Sydney and to take charge of the coast and tableland districts immediately north and south of Sydney. For this position Mr. Hindmarsh, District Veterinary Officer (North) was selected, and his position in the North was filled by Mr. C. Blumer, B.V.Sc. Very shortly after Mr. Hindmarsh's appointment as District Veterinary Officer (Sydney) he was further promoted to the position of Senior Veterinary Research Officer to work under the Director of Veterinary Research at Glenfield. As a consequence, the position of District Veterinary Officer (Sydney) is still vacant, and will not be filled for some months to come.

The staff at Glenfield was further strengthened by the appointment of Mr. T. McGrath, M.R.C.V.S., as Veterinary Research Officer, and the field staff by the appointment of Mr. W. Webster and Mr. K. McIntosh, both from the Veterinary School of Sydney University, and the temporary appointment of Mr. F. H. McDonnell, M.R.C.V.S.

One reason for increasing the field staff in this way is to enable relieving officers to be sent out when veterinary officers and inspectors of stock are on leave of absence.

Owing to the initiative of the Pastures Protection Boards' Council of Advice a subsidy will be paid to the Department to enable two additional research officers to be appointed to Glenfield, whilst the appointment of a veterinary research officer to specialise on the diseases of poultry is foreshadowed. "Following such appointments it will be necessary, in order to maintain balance, gradually further to strengthen the field staff," states Mr. Henry.

The appointment of Messrs. Hindmarsh and McGrath has given the Director of Veterinary Research assistance which was urgently required and without which, it is stated, the work of the station must have been seriously dislocated.

Work in connection with swine fever has again occupied much of the time of the State, but the increased staff has enabled the Director of Veterinary Research considerably to augment the volume of work being carried out in connection with poison plants, with which work the Council for Scientific and Industrial Research is co-operating, as well as in other directions. The research and diagnostic work undertaken at the station will be published in Veterinary Research Report No. 5.

The continuance of the embargo as regards live stock from Great Britain has again kept the work at the quarantine station at a low figure, except as regards dogs.

Educational Work. A number of lectures have been delivered by the district veterinary officers in the country, but the main educational activities of the branch have been confined to the work of the officers who were placed for duty with the Better Farming Train. This work has given them the opportunity of coming into personal contact with a very large number of stockowners and this seems to be the most effective method of conveying information. It has been found difficult to ensure that the knowledge in the possession of the Department reaches the stockowner through the agency of publication.

Border Control.

The extent of the work involved in the supervision of stock crossing the borders into New South Wales from other States will be evident from the following tables:—

	From Queensland.		From Victoria.	From S. Australia.
	—	No. Dipped.		
Horses ...	9,737	3,039	855	173
Cattle ...	339,587	185,946	36,929	2,427
Sheep ...	587,399	.....	938,266	102,590
Pigs ...	2,500	.....	.....	.....

The number of animals introduced from countries outside Australia during the year was as follows:—

Horses	172	Dogs	188
Cattle	59	Cats	12
Sheep	1,214	Fowls	19
Goats	—	Birds	13,690
Pigs	3	Other animals	11

The Chief Veterinary Officer proceeds to deal with the incidence of, and the measures of control adopted against, a number of diseases, of which pleuro-pneumonia contagiosa is given pride of place. There was a slight reduction in the number of reported outbreaks of this disease, 116 being dealt with as compared with 144 in the previous year.

The great dairying districts have been kept free for a further period, and the Casino-Grafton quarantine line, to which reference was made in last year's report, has been maintained and is considered to be an effective agent in maintaining the freedom of the North Coast not only from pleuro-pneumonia contagiosa but from piroplasmosis. A special conference on the question of this quarantine line was held at Tabulam, and was attended by the Chief Veterinary Surgeon, the Chairman of the Board of Tick Control, the District Veterinary Officer (North) and Inspectors of Stock for the interested P.P. Districts and the tick quarantine areas. As a result of this conference it

*Department of Agriculture, New South Wales, Science Bulletin No. 34, April, 1929, Live Stock Diseases Report, No. 4, recording control work during the year ended 30th June, 1928.

was decided to maintain the line as originally proposed. As a result of the establishment of this line it was possible to remove the Tabulam quarantine line, which aimed solely at preventing the introduction of Queensland cattle into the tick quarantine areas.

As the West is the district in which pleuro-pneumonia has been most pronounced of late years, the report of the District Veterinary Officer (West) is given in full in this document.

The outbreak of swine fever recorded in last year's report continued, but as the spring advanced control became effective, and towards the end of 1927 it was hoped that it had been finally stopped. A recrudescence occurred, however, and at 30th June, 1928, the disease was still present in the State, though apparently confined to two small areas in the county of Cumberland. It appears that a very interesting series of outbreaks occurred between Bathurst and Katoomba. The course of infection could readily be followed, and the danger of feeding unboiled household garbage was emphasised in a most marked manner. All these outside outbreaks were satisfactorily dealt with. So strong was the evidence against household garbage, together with that obtained by experimental tests at Glenfield Veterinary Research Station, that when a recrudescence of the disease appeared in the county of Cumberland it was decided to allow no pigs from a holding on which swine fever occurred to go into consumption. They were therefore all slaughtered and boiled down. "Not unnaturally, such drastic action did not pass without comment and criticism," says the author, "but it is felt that in view of the situation in Australia no measures can be too drastic if they hold out a promise of eradication. There is probably no country in the world so favourably situated as Australia for such action, except New Zealand, and the latter country is free from the disease."

Thirteen outbreaks of anthrax were dealt with during the year under review, involving 34,207 sheep, 288 cattle and 100 pigs, resulting in the death of 536 sheep, 11 cattle and 9 pigs. The number of vaccinations reported was 110,446 sheep, 8,066 cattle, 100 pigs and 11 horses.

Ninety outbreaks of blackleg were dealt with by Stock Inspectors. "The usual course of action is to quarantine the holding and arrange for inoculation. A certain number of inoculators' licenses are issued to selected stockowners in each of the blackleg districts as the veterinary service available in those districts in the persons of veterinary practitioners is very limited. The disease shows no tendency to encroach on new areas, and the incidence varies from year to year without any ostensible reason."

The list of herds published in the *Agricultural Gazette* for June, 1928, as being tubercle-free, shows 34 herds, including 1,247 animals. The total number of animals tested during the year under all circumstances was 1,436, of which 29 reacted, or 2.01 per cent. In the herds under test in connection with the tubercle-free herd scheme, those tested for the first time included 361 animals, of which 7 reacted, or 1.9 per cent.

The unfavourable season experienced in 1927 seriously interfered with the work of controlling lice and tick (ked) in sheep. Many men were unable to dip and the consequence was seen in the degree of infestation in the many parts of the State.

A tribute is paid to the efficacy of carbon tetrachloride in the treatment of liver fluke of sheep. Indeed, Mr. Henry is able to say:—"It is doubtful if any work of the Department has had such rapid results as the recommendations regarding the treatment of fluke-infested sheep with carbon tetrachloride. The drug is now in general use in the known fluke-infested districts. In districts where it was known to be unsafe to keep sheep, owners have stated that they no longer fear the fluke, and information is to hand that following the discovery of the efficacy of the drug, properties on the eastern falls of the mountains have already increased in value. Some instances of losses in sheep following the use of carbon tetrachloride have been reported, but the reason for these losses is obscure.

"Carbon tetrachloride has been found equally efficacious with cattle, but there appear to be indications that it has somewhat untoward effects on milch cows. The District Veterinary Officer (North) states that information has been received that the milk is tainted by the drug and that cattle lose their appetite and the milk supply diminishes for a week or so after the administration of the drug.

"By continuing the treatment of the sheep with carbon tetrachloride and so destroying the fluke, and the treatment of the watercourses, swamps and springs with copper sulphate in order to destroy snails, the eradication of fluke on any property may be rapidly brought about. What was considered one of the chief drawbacks to sheep-raising in the tablelands of New South Wales has thus been completely overcome."

Veterinary Thanksgiving Fund.

FURTHER SUBSCRIPTIONS.

	£	s.	d.
J. L. Cormack, M.R.C.V.S., Coventry ...	1	1	0
H. E. Hornby, F.R.C.V.S., Tanganyika ...	2	0	0
R. Hughes, F.R.C.V.S., Oswestry	1	1	0
Capt. W. Kendrick, M.R.C.V.S., Tarvin ...	1	1	0
A. P. Logan, M.R.C.V.S., Ballyclare ...	1	1	0
Capt. Noel-Pillers, F.R.C.V.S., Liverpool ...	0	10	6
Royal Counties Veterinary Medical Association	5	0	0
J. K. Shaw, M.R.C.V.S., Wallasey	0	10	6
A. Shoshan, M.R.C.V.S., Palestine	1	0	0
Major J. Southall, R.A.V.C.	1	1	0
F. Ware, F.R.C.V.S., Madras	1	0	0
Western Counties Veterinary Medical Association	2	2	0
W. Woods, F.R.C.V.S., Wigan...	2	2	0
	19	10	0
Previously reported	120	17	0
	£140	7	0

SOUTH AMERICAN MEAT.

The Agricultural Correspondent of *The Times*, writing in a recent issue of that paper, says:—"A correspondent recently returned from a visit to South America confirms the views expressed by Sir William Haldane regarding the probable shipments of beef from that source in the future. He says:—'I don't think there will be an increase of beef shipments from the Argentine and Uruguay. Sheep have paid better and may tend to increase.' But reference is made to a new source, although it would seem that the danger from that quarter is not yet serious. My correspondent states:—'The surprising thing is the shipment of chilled beef from Brazil; these are Zebu crossed cattle, which sell quite well in London.' It would appear that the old routine continues—that as one source slackens or ceases to trouble another candidate for the vacated place arises to maintain the opposition to home production."

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A special meeting of Council R.C.V.S. was held at the College, 10 Red Lion Square, W.C.1, on Wednesday, 17th July, 1929, when there were present: Prof. J. F. Craig (President) in the Chair, Lt.-Col. J. W. Brittlebank, Mr. J. H. Carter, Prof. F. T. G. Hobday, Messrs. G. H. Livesey, G. H. Locke, Sir John M'Fadyean, Major-General Sir John Moore, Lt.-Col. P. J. Simpson, Col. G. K. Walker, Prof. G. H. Wooldridge and Lt.-Col. T. Dunlop Young.

The minutes of the previous special meeting were read and signed as correct.

Letters of apology for absence were received from Dr. O. Charnock Bradley, Major G. W. Dunkin, Prof. S. H. Gaiger, Mr. R. Hughes and Mr. J. W. McIntosh.

On the motion of the PRESIDENT, it was resolved—

That the following alterations to Bye-laws passed at the special meeting of Council held on the 5th July, 1929, be confirmed:—

To alter Bye-laws 102 and 103 to read as follows:

Bye-law 102. The Thesis shall be submitted to a Special Committee appointed by the Examination Committee, who shall (*a*) decide the section or sections into which the subject-matter of the Thesis falls: (*b*) select two or more Examiners from the recognised list to whom the Thesis shall be submitted for examination and report.

Bye-law 103. In the event of the Examiners recommending the acceptance of the Thesis, the candidate may be required to present himself at the Royal College of Veterinary Surgeons or at such other place as may be determined, to be further tested either orally or otherwise at the discretion of the Examiners in that branch or those branches of Veterinary Science to which the subject of the Thesis belongs, but it shall be within the discretion of the Examiners to recommend the rejection of the candidate without such further test. Each Examiner shall make a separate report to the Examination Committee on his examination of the Thesis, and on any further examination of the candidate. In case the Examiners shall, upon examination of the Thesis and of any other contributions to the advancement of Veterinary Science submitted by the candidate, hold the same to be generally or specifically of such excellence as to justify the exemption of the candidate from any further test, the Examiners shall set forth the fact in their report, giving the grounds for their recommendation, and the Examination Committee shall have power in such case to exempt the candidate from any further test.

Alteration to Schedule I.—To insert in Paragraph I (*c*) after the words "The Senior Certificate Examination of the Central Welsh Board," the following:

"Certificates granted on the results of the above examinations are recognised provided that the candidate has at not more than two examinations attained a pass with credit in English in Group I, in at least one language in Group II, and in Mathematics in Group III."

Jubilee Memorial Prize. To amend Rule 1 of the Rules for the award of the Jubilee Memorial Prize:

In line 2 omit the words "since the date of the previous" and insert in place thereof the words "within the four years preceding the date of the."

To amend Rule 13 by the substitution of "£140" for "£100."

It was resolved that the Common Seal of the College be affixed to the Bye-laws as altered.

Experiments on Animals.

HOME OFFICE RETURN.

A return issued by the Home Office relating to experiments on living animals shows that in 1928 the total number of experiments was 315,891, or 22,589 more than in 1927. The number of experiments with anæsthetics was 14,976, an increase of 1,105; and the number of experiments without anæsthetics was 300,915, an increase of 21,484.

Of the 14,976 experiments with anæsthetics, comprising all the cases in which any serious operation was involved, 6,628 came under the statutory provision that the animal must be kept under an anæsthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anæsthetic.

In the remaining 8,348 experiments with anæsthetics, the initial operations were performed under anæsthetics, from the influence of which the animals were allowed to recover. Except in a few cases, such as experiments dealing with the efficiency of antiseptics, the operations are required to be performed antiseptically, so that the healing of the wounds shall, so far as possible, take place without pain. If the antiseptic precautions fail, and suppuration occurs, the animal is required to be killed. It is generally essential for the success of these experiments states the report, that the wounds should heal cleanly and the surrounding parts remain in a healthy condition. After the healing of the wounds the animals are not necessarily, or even generally, in pain, since experiments involving the removal of important organs, including portions of the brain may be performed without giving rise to pain after the recovery from the operation; and after the section of a part of the nervous system, the resulting degenerative changes are painless. In the event of a subsequent operation being necessary a condition is attached to the licence requiring all operative procedures to be carried out under anæsthetics of sufficient power to prevent the animal feeling pain; and no observations or stimulations of a character to cause pain are allowed to be made without the animals being anæsthetised.

The 300,915 experiments without anæsthetics were mostly inoculations. In no instance was a certificate dispensing with the use of anæsthetics allowed for an experiment involving a serious operation. The operative procedures in these experiments were only such as are attended by no considerable, if appreciable, pain.

During the year 34,180 experiments were performed by 20 licensees in the course of cancer investigations. Of these, 443 were with anæsthetics, and 33,737 without anæsthetics, the latter being almost entirely inoculations into mice or exposure of animals to radiations.

Nearly 69,000 experiments were performed for Government Departments, the Medical Research Council, county councils, municipal corporations, or other public health authorities, and over 131,000 for the preparation and testing of anti-toxic sera and vaccines, and for the testing and standardising of drugs.

Only three irregularities by licensees were reported during the year.—*The Times.*

DIVISIONAL REPORTS.

Central Division, N.V.M.A.

Visit to Lavington Park.

Famous Studs Inspected.

The friendship of over half a century existing between the President of the Central Division, N.V.M.A. (Professor James Macqueen) and Lord Woolavington, of Lavington Park, Petworth, Sussex, produced for the particular benefit of the Fellows of the Society a further manifestation of the practical interest in the welfare of the profession which his lordship has shown by his benefactions to veterinary educational institutions, in an invitation to visit the Park, where special arrangements were made to enable the Fellows to inspect the two famous studs.

The invitation was accepted with eagerness, and on Tuesday, July 23rd, a large company, travelling by char-a-banc from Red Lion Square and by cars from London and elsewhere, converged on the long and lovely road to Petworth, enjoying to the full on a perfect summer day some of the most delightful country Surrey and Sussex have to show.

Though the Hon. Secretary was amongst those unfortunately prevented from attending, the arrangements were (most appropriately) carried through with the utmost efficiency by other representatives of the clan Macdonald, for on arrival the party were met by Mr. R. Macdonald Buchanan (Lord Woolavington's son-in-law), and Mr. Hector Macdonald, who manages the studs. Having driven through the magnificent park, they were entertained to luncheon at the Empire Hall, Graffham.

The Studs.

The Westerlands Stud was the first to be visited, and the interest of the company was most effectively aroused by the bringing out, as the first exhibit, of Coronach, the famous stallion who won the Derby in 1926. By Hurry On (another proud Lavington possession) out of Wet Kiss, this six-year-old looked perceptibly darker in coat since the days of his memorable triumph at Epsom, and his other successes as a three-year-old, namely, the Eclipse Stakes, the St. Leger Stakes, the Column Produce Stakes, Newmarket, and the St. James's Palace Stakes. At four years Coronach, who stands 16.1½ hh. and has 8¼in. bone, carried off the Coronation Cup and the Hardwicke Stakes.

The Westerlands is the newer stud, and here were also viewed some magnificent mares with their good-looking foals. Among these were Arena (with chestnut filly foal by Foxlaw), half-sister to Wet Kiss; Daughter-in-law (with bay colt foal by Coronach), whose second foal won the Derby Cup; Williams Pride (with filly foal), three-quarters sister to Walter Gay, which ran second in this year's Derby; Marguerita, with chestnut foal by Buchan; Blue Moon, with a chestnut foal by Coronach, and Joie de Vive (the dam of Alan Breck, fourth in the Derby), who is twenty-one years old, with a chestnut filly by Salvo.

Re-boarding char-a-banc and cars, the party now returned from the western border of the glorious park and training grounds to the home stud—the Lavington—where the first of the bloodstock to be inspected was the fine stallion Hurry On, by Marcovil out of Toute Suite. Looking an altogether bigger animal than Coronach, it was surprising to learn that Hurry On, who stands 17 h.h., has the same bone. The horse ran at three years only and never was beaten, commencing with a maiden plate at Lingfield and taking, in sequence, the Stetchworth Plate (Newmarket), Newbury Stakes, Substitute St. Leger, Newmarket St. Leger and the Jockey Club Cup. Hurry On's chief claim to fame, however, is in the siring of three Derby winners, namely, Captain Cuttle, Call Boy, and Coronach, while also numbered among his offspring are Plack and Cresta Run (winners of the 1,000 Guineas) and Toboggan (winner of the Oaks).

Subsequently, some lovely yearling colts and fillies were brought out of their boxes for the visitors' inspection, the former including a brown, by Epinard out of Audit—the first of Epinard's stock in England, and born in the U.S.A.

The stables themselves were worthy to house such bloodstock—equal as the latter is to any in the world, and charged with Derby associations—and the Fellows were full of admiration for their structure and equipment.

The company were again hospitably entertained after leaving the stud stables, taking tea at the Empire Hall, where the President announced, amid applause, that Lord Woolavington had kindly consented to show the company his famous collection of pictures and desired to give them a personal welcome. By way of the beautiful gardens, the party entered the mansion, once the residence of the late Cardinal Manning, where they spent some time studying with keen interest the masterpieces in oils of Ben Marshall (1767-1835) and other painters of hunting and racing groups and portraits of outstanding sporting personalities of by-gone days.

Personal Tributes.

Lord Woolavington having joined the company, accompanied by one of his favourite dogs—a magnificent Deerhound—Professor Macqueen, addressing his lordship, said that as President of the premier veterinary society of England—that was, the Central Veterinary Society of London, a society which was distinguished by the scientific attainments of its members—he desired, on its behalf, to propose a hearty vote of thanks to his lordship for his splendid hospitality and for his kindness in extending to the Society the privilege of viewing his bloodstock. They had enjoyed their visit very much, and he thought that every member present had spoken to him in appreciation of the splendid arrangements which had been made for them.

If he might end on a personal note, he should like to say that he had had the honour of Lord Woolavington's friendship since the year 1875, when he was a student at the Glasgow Veterinary College. At that time Lord Woolavington was a close friend and warm supporter of the late Principal McCall and he had continued his support of the Glasgow Veterinary College down to the present time. Not only that, but he had been a generous contributor to the Royal Veterinary College, Camden Town, while they could recall his very generous donation to the University of Edinburgh for the establishment of a Chair of Animal Genetics.

They, as a Society, desired to tender him their warmest thanks for his splendid hospitality and for his great kindness to them that day. (Applause.)

Lord WOOLAVINGTON, who will shortly be eighty years of age, said, in acknowledgment of the vote of thanks, that he was very delighted to welcome the Society to Lavington Park and to be able to show them, in his own way, an act of kindness. He reciprocated most heartily and most sincerely the kind expressions to which they had just listened from his old and esteemed friend, Professor Macqueen. All who had met Professor Macqueen either socially or in connection with the work of the profession, had the greatest respect and esteem for him. (Hear, hear.) In the ordinary course of things Professor Macqueen's connection with the Royal Veterinary College in London had practically come to a finish, but it was gratifying to know that he was still able to get about the country and give the benefit of his experience and technical knowledge in connection with his profession to men like himself, who were so closely attached to live stock and to farming generally. He hoped that their President would be spared for many years still to contribute his skill and help in all matters relating to the welfare of bloodstock and farm stock in this country. (Applause.)

Proceeding, Lord Woolavington said that he always watched with the greatest interest the scientific side of the work of the veterinary profession. He was glad to learn that a man of such eminence and experience as Professor Hobday was now at the head of affairs at the Royal Veterinary College in London. He was sure it was a position that Professor Hobday had well earned, and he was sure that with him in that position the College would prosper. (Hear, hear.)

He would like to see a greater interest taken by the Government in veterinary science in this country. It seemed to him an extraordinary thing that a people like the British, fond of animals as they were, should give so little support to the science and work of their profession.

He looked back with the greatest interest and pleasure to his old association with the veterinary college at Glasgow at the time Professor McCall—an old and esteemed friend of his—was Principal.

He hoped and trusted that they would give him the pleasure and privilege of welcoming the Society to Lavington Park on some future occasion. He was delighted to learn that they had enjoyed their visit to his stud that day and that they were satisfied with its conduct. They endeavoured to do their very best for the welfare of the bloodstock under their care and they considered that by so doing they were helping on a great industry in this country. (Hear, hear.)

He would conclude by expressing his hearty appreciation of the kind remarks made by Professor Macqueen on his own and on their behalf, and by repeating his invitation to them to come and see him again. They would be warmly welcomed guests. (Applause.)

An additional enjoyment of a memorable day was the drive back in the cool and quiet evening, when friends had leisure to discuss the respective merits of the choice animals they had seen.

The following Fellows were present:—Professor James Macqueen (President), Colonel W. S. Anthony, Captain A. H. Andrew, Lieut.-Col. E. P. Argyle, Captain. L. S. Balls, Major R. R. Body, Mr. W. Brown, Captain R. Bryden, Captain G. N. Bushman, Mr. H. E. Bywater, Miss A. Cust, Captain T. M. Doyle, Captain H. S. A. Dunn, Captain A. H. Fowler, Captain F. C. Gillard, Mr. J. R. Hayhurst, Principal F. T. G. Hobday, Major F. Hogg, Major H. J. Holness, Captain S. E. Holmes, Major Hamilton Kirk, Major R. H. Knowles, Captain G. W. Lucking, Mr. G. P. Male, Professor J. McCunn, Dr. F. C. Minett, Lieut.-Col. H. S. Mosley, Colonel W. A. Pallin, Mr. J. H. Poles, Mr. J. W. Pritchard, Mr. W. W. Reekie, Major G. Rees-Mogg, Mr. Charles Roberts, Mr. James Rowe, Dr. A. L. Sheather, Miss K. W. Shedlock, Lieut.-Col. P. J. Simpson, Lieut.-Col. P. W. Dayer Smith, Mr. J. Smith, Mr. A. Spicer, Mr. C. H. Spurgeon, Captain R. J. Stow, Mr. E. L. Stroud, Major Guy Sutton, Captain W. K. Townson, Major R. F. Wall, Mr. F. W. Willett, Mr. J. Willett, Mr. R. A. Willett.

J. F. MACDONALD, *Hon. Secretary.*

South-Eastern Division, N.V.M.A.*

SUMMER MEETING AT TUNBRIDGE WELLS.

The summer meeting of the Division was held on June 6th at Tunbridge Wells, by kind invitation of Mr. C. Roberts. The business meeting and discussion were held in Mr. Roberts' house, and the operations and demonstrations took place in his surgery and yard.

The following members were present:—Mr. H. Taylor (President), Messrs. L. P. Pugh, A. Spicer, J. B. Dier, F. L. Munslow, H. S. Head, A. T. Crowther, E. P. Barrett, J. G. Cattell, E. Morgan, W. D. Halfhead, R. A. Edwards, H. P. Hogben, C. Roberts, C. Rose, C. W. Perrin, F. W. Pritchard, J. W. M. Hinton, F. Marks, A. Whicher, T. Dalling, and others. Visitors included Messrs. G. P. Male, W. Andrew and O. Stinson.

Letters of apology for absence were received from T. F. Hogben, E. Ebbetts, G. W. Dunkin and J. Bell.

The President expressed regret that illness prevented Mr. W. S. Gordon (Hon. Secretary) from attending. His place was being taken by Mr. T. Dalling.

The minutes of the last meeting, having been published in the *Record*, were taken as read and confirmed.

Correspondence.—(1) From the N.V.M.A. on the subject of representatives on the Council of the N.V.M.A. Several members took part in the discussion on this communication and Mr. ROBERTS moved, Mr. PUGH seconding, "That this Division supports the views contained in the letter, namely, that the following addition be made to Article 59 in the Articles of Association of the Association: '(*d*) Twenty-five representatives previously nominated by members of the Association and elected by them by ballot prior to the Annual General Meeting.'"

(2) From the Principal of the South-EasternAgricultural College, Wye, Kent, on the subject of the appointment of a veterinary officer on the college staff. On the motion of Mr. SPICER, it was agreed that the Division should support the application of the college for the appointment of a veterinary officer.

Election to Membership.—On the proposal of Mr. PUGH, seconded by Mr. SPICER, Mr. C. E. Rix was unanimously elected a member of the Division.

* Received on July 6th.

Next Meeting.—It was agreed to hold the next meeting at Maidstone.

PRESIDENTIAL ADDRESS.

The PRESIDENT next gave his presidential address and spoke in the following terms :—

In the first place, I must return thanks to the members of this Division for the honour they have done me in electing me to the Presidential Chair for this year. The compliment is very highly appreciated, and I shall endeavour to make this session as felicitous, instructive and entertaining as it is possible. Many of our Presidents have filled the chair in an able manner, which would make one try to emulate their good examples and follow in their footsteps. I trust, therefore, that I shall have the support of every member of this important Division during my year of office, and that we may look forward to a year of progress, not only in the enlightenment of all from a scientific point of view, which comes from the interchange of ideas, but also by mutual help and encouragement in the conquering of difficulties which beset general practitioners.

Meetings such as these stimulate thought, and by counsel and advice assist each one of us in the trials which occasionally crop up in the routine of practice.

The papers which are read at the meetings of Veterinary Associations must vary in the interest they excite among the members, because some particular subjects do not perhaps come within their own particular purview. Other papers, on the contrary, may be of general interest, but nevertheless, by social intercourse and the exchange of ideas, they ought to act as an inducement to attend.

Custom has decreed that, on the occasion of an address from the chair, allusion shall be made to one or two topics of professional interest, and I wish briefly to make a few remarks on one or two points of interest.

Education.

I hope that, before long, the Council of the R.C.V.S. will tackle, in a business-like manner, the curriculum necessary for the graduate. They nibbled at the object at the time they discussed whether anatomy should be taken in two examinations or in one. The profession should take a comprehensive survey of the matter. Let us remember what the poet says :—

"In fearless youth we tempt the heights of art,
While from the bounded level of our mind
Short views we take, nor see the lengths behind ;
But more advanced, behold with strange surprise
New distant scenes of endless science rise."

I may be told that the Council has the matter of the curriculum in hand. I believe it has ; but all we know officially is that there has been a discussion on anatomy.

As an examiner for some fourteen years in the subject of Hygiene and Dietetics—a subject which has been brought much to the fore lately, and which, as far as the knowledge possessed by the average farmer goes, has made immense strides—let me just say that nothing has been altered in the curriculum, or, I believe, in any of the subjects for the other examinations A, B, and D, since the year 1895, 34 years ago. The profession in general is interested in the education of the future veterinary surgeon, so if I may be allowed to offer a suggestion to that august body, the Council of the R.C.V.S., sitting in its beautiful redesigned Chamber, it would be that the regime, in the same way, be brought up-to-date, and that a synopsis of the changes contemplated should be published in the *Veterinary Record*. In that way it may be discussed by those who feel inclined. King Solomon said : "In the multitude of counsellors there is wisdom." I leave it at that.

Reference is made to the subject in the last volume of the Register, in which it is remarked that a questionnaire has been issued to "teachers, examiners and others," but that the revision is a formidable task and one that cannot be hurried. I agree that it is a formidable task, but that is all the more reason for tackling it vigorously. At the last National meeting this matter was brought before the members, but no result seems to have accrued.

There is a sphere of usefulness for the profession on which I should like to remark. As general practitioners and veterinary inspectors we may influence the farmers and the community in general, also those authorities superintending the welfare of farm animals (*i.e.*, the Ministry of Agriculture and the County and Borough authorities) for the betterment of the conditions under which milk is produced. One ideal at which we may aim in the improvement of the milk supply, is the periodical inspection of dairies. At a recent meeting of the veterinary inspectors of East Sussex with the County Medical Officer of Health at Lewes, all were unanimous in advocating that, but the question of expense to the County Council is a formidable obstacle.

In that most delightful of counties in which I live, namely, Sussex, the burden would fall very heavily on the County Council. The figure mentioned was, I believe, £5,000 a year for inspections at three months intervals. In Sussex we have a large number of milk cows supplying the populations of big towns outside the county boundary —*e.g.*, Croydon, London—the rates of which do not contribute to the cost of inspections ; and there are other boroughs inside the county (Brighton, Eastbourne, and Hastings) from which again no assistance is given. The above five towns would get the benefit of a clean milk supply without contributing anything. In Surrey, on the other hand, there are many towns of a largish size the rates of which help to swell the county exchequer. Again, the number of cows there is comparatively small. Hence the question of £ s. d. is not felt in the same manner. The most that one can hope for, under circumstances such as the above, would perhaps be an annual inspection of all the dairies, and this would no doubt have a good effect on the milk producer, particularly if he knew that the inspector was coming sometime during the year.

Another direction in which we may help to raise the health of the nation is by a sort of clean milk crusade among the ordinary milkers. Let us be propagandists unobtrusively. A word or two of advice to the milker regarding the absolute necessity of cleanliness during the milking process may work wonders. How many, for example, know that the first-drawn milk is very rich in bacteria ? And in the matter of feeding animals, even with all the increase in knowledge of the nutritive ratios, etc., there is much ignorance among the farm labourers which we can help to eradicate.

Reporting Cases.

What an appalling loss of knowledge accrues each year by veterinary surgeons failing to report their interesting

cases in our periodicals! The sum total must enhance our collective wisdom. Bacon said: "Read not to contradict and confute, nor to believe and take for granted, nor find talk and discourse, but to weigh and consider." Let this Division set an example to the rest of the country by the number of articles it contributes to our veterinary periodicals.

Rebuilding of the Camden Town College.

The fund for the rebuilding does not mount up as fast as we should like to see it. Perhaps if we got sufficient money to make a start in the actual building, the sight of an edifice being erected might induce more people to subscribe. But in any case it behoves us, one and all, to do our utmost to further the object by keeping the matter before our rich clients as well as by our own individual efforts. The present institution at Camden Town, with its old and decaying walls, is nothing less than a disgrace to a country which boasts of the finest stock in the world.

Inoculation for Distemper.

A brief reference to the Laidlaw-Dunkin inoculation for distemper will not be out of place, seeing that the latter is a member of our Division. One of the most pleasing thoughts, to my mind, whatever the results of it may be in practice, is the fact that one of our own profession has achieved something tangible as the reward of months of research. That shows we have amongst us men who, if facilities are granted them and money is forthcoming to provide those facilities, can advance the cause of veterinary science, rendering it more efficient to cope with disease, and at the same time show to the nation that we are progressing. I repeat, we have the men, and it is regretted that money for such investigations does not flow in as freely as we could wish. Of course, other veterinary surgeons have done good research work, but the distemper inoculation has a particularly wide appeal, and ensures more publicity.

We are a small profession, and our members for the last four years have remained about at a standstill. The following figures will illustrate my point:—

	1923	1924	1925	1926	1927	1928	1929
No. on Register ...	3277	3364	3499	3507	3496	3486	3476
No. of new graduates during the year	175	146	94	72	80	80	85
No. of deaths during the year ...	67	54	75	71	85	84	—

There must also be taken into account the fact that each year a number of names are removed by the Registrar on account of the negligence of members to report changes of address. Is this a healthy sign or not?

In conclusion, just a few words about our Association. It was started about the first week in January, 1912, our first President being Mr. James Crowhurst, of Canterbury, who was succeeded by Mr. E. L. Dixson, of Margate, both of whom have joined the great majority. Then came the cousin of our late Secretary, Mr. Hogben, and others who are still with us. Our first Secretary, Mr. J. C. Toope, died early in war time. Our numbers were small at first, but rapidly increased, and prior to the outbreak of war they were much the same as now. The introduction of the Tuberculosis Order in 1913 and demonstrations in connection with it brought us quite a lot of members. The war acted adversely, but I believe our numbers now are very nearly, or perhaps not quite, equal to our best days. The early members were said to be very keen. Let one and all emulate their good example and carry on the work so well started by them to fuller fruition; striving to maintain high standards of discussion, and by example and precept advancing the profession to greater heights.

Mr. Taylor's remarks were received with enthusiasm and a short discussion took place.

The President then called on Mr. O. STINSON to make a few remarks on "The Movements of the Rumen of the Ox as observed in the course of Abdominal Surgery." (Mr. Stinson's contribution is printed elsewhere in this journal. Ed.) The subject formed the source of much discussion and Mr. Stinson was warmly thanked for his careful observations and for the honour he had done the Society in presenting his observations at its meeting.

Surgical demonstrations now took place. They were: (1) Operations on the Teat, by Mr. O. Stinson; and (2) The Transplanting of Ovaries in the Bitch, by Mr. G. P. Male. Both demonstrations were thoroughly well done and, judging by the amount of discussion, were greatly appreciated.

At the invitation of Mr. and Mrs. Roberts, the members and friends were entertained to tea. Votes of thanks to the operators, to the hosts and to the President brought a most enjoyable, interesting and educative meeting to a close.

Victoria Veterinary Benevolent Fund.

MEETING OF COUNCIL.

A meeting of the Council of the Fund was held at 10 Red Lion Square, London, W.C.1, on Wednesday, 17th July, 1929, when the following members were present:—Lieut.-Col J. W. Brittlebank (President) in the Chair, Mr. G. H. Locke, Major-General Sir John Moore, Lieut.-Col. P. J. Simpson, Messrs. J. Willett, and S. Villar.

Letters of apology for absence were received from Dr. O. Charnock Bradley, Messrs. A. Gofton, J. Ewing Johnston, J. W. McIntosh, S. H. Slocock, Major C. W. Townsend, Messrs. E. Alfred West and W. Jackson Young.

The minutes of the previous meeting were taken as read and signed as correct.

Veterinary Thanksgiving Fund. The President reported correspondence he had had with a member who desired to remain anonymous, offering to contribute £100 to a Veterinary Thanksgiving Fund to be used for benevolent purposes if other members of the profession would subscribe a similar sum. The President stated that he had accepted the offer and had published an appeal, in consequence of which subscriptions amounting to more than £100 had been received. The anonymous donor was, however, willing, if further subscriptions should be sent in, to increase the amount of his original offer correspondingly.

A further report on the matter will be presented to the Council at its next meeting.

The action of the President was approved.

Secretary's Report.

The Secretary submitted the following report :—

Since the date of the previous Quarterly Meeting the following new subscriptions and donations have been received :—

New Subscriptions.

	£	s.	d.
E. Wilkinson	1	1	0
T. Johnston	2	2	0
A. Glover	1	1	0
J. F. Craig ... ... (increase)	1	1	0
S. Sharp	1	1	0
T. B. McClure	1	1	0
	£7	7	0

Donations.

	£	s.	d.
R. Ewing Johnston (proceeds of a Dance, at which Mr. Ewing Johnston's Dance Band provided the music	2	2	0
J. R. O. Reali	5	0	0
Central V.M.A. (Collecting Box) ...	1	6	1
	£8	8	1

It was resolved that the thanks of the Council be conveyed to the Donors, and especially to Mr. Reali and to Mr. Johnstone, for their generous help.

Cases.

No. 89, widow, aged 54, 2 children, income £2 weekly. The grant in this case was discontinued.

No. 72, Member's wife, aged 52, 3 children, no income. It was resolved to continue the grant in this case.

No. 90, widow, aged 29, 2 children, under 10 years of age. Total income 47s. 6d. per week. It was resolved that, notwithstanding the resolution of Council at its previous meeting, the grant of 15s. be continued for the present quarter.

No. 133, widow, aged 50, 2 sons. It was reported that the Executive Committee had made a provisional grant of £1 a week in this case. It was resolved that the action of the Executive Committee be approved, but that further enquiries be made as to the present circumstances of this applicant.

No. 134, Member, aged 70, 2 children. Unable to work owing to ill health. It was decided to make a grant of 10s. per week in this case, commencing from 1st July.

No. 135, Member, aged 40, suffering from advanced pulmonary tuberculosis. It was resolved that an emergency grant of £10 be made in this case and that the question of any further assistance be left in the hands of the Executive Committee.

Animal Diseases Research Association of Scotland.

Work on Important Problems.

Mr. Falconer L. Wallace, presiding at the annual meeting of this Association, which was held at the Moredun Institute, Gilmerton, on July 4th, said that the donation of £10,000 from an anonymous donor to form an endowment fund for strengthening and/or increasing the research staff, placed the finances of the Association on a more satisfactory foundation. The Association now possessed a really well-equipped Institute, which provided facilities for carrying out all the research work necessary in connection with inquiries into the causation and methods of prevention of animal disease. A larger staff was still necessary. It was still impossible to make use of the accommodation in the Association's laboratories at the Royal (Dick) Veterinary College, because they had not enough staff. The subjects investigated were limited to a small number of those of outstanding importance, and many diseases which caused regular severe losses had to be left alone in spite of repeated requests for help from stockowners. The Association could boast of the foundation of a really good library dealing with the subjects related to disease. A whole-time librarian was now employed, and this department of the Institute had been of great value to the research staff in the course of their work. The existing accommodation was already full, and a scheme for the extension of the present room was under discussion.

The motor laboratory had been in almost constant use throughout the year and had been a great boon in connection with the field work. The Association was represented on certain Committees in connection with subjects related to animal disease. The Lamb Dysentery Sub-Committee of the Agricultural Research Council was about to dissolve, as, with the elucidation of the nature of the disease and the elaboration of reliable preventive agents, there was very little work for it to carry out. The Scottish Sterility Committee was languishing because none of the Institutes was in a position to do the necessary work. There was little doubt that the most important part of bovine sterility related to its pathological aspects and that, therefore, the Association would be called upon to do the bulk of the work. The study of the problems involved could commence at once if an adequate staff were available. Sterility was undoubtedly closely related in many cases to infection with the bacillus of bovine contagious abortion.

A summary had been made of previous work carried out in connection with louping-ill, and on the basis of this summary an extensive programme involving experiments extending over four or five years had been drawn up. It was hoped that information leading to the discovery of the cause of the disease would be obtained at an earlier date than five years hence, but, even so, from the nature of the questions involved, it had been necessary to prepare for a protracted piece of work, and to "hasten slowly," rather than be too optimistic. The Association's scheme for the investigation of bovine abortion disease was now under the consideration of the Empire Marketing Board. The question of transit fever had been considered by the Research Committee, and, as a preliminary measure, an application had been made for funds in order that Professor Linton, of the Royal (Dick) Veterinary College, might make inquiry into the hygienic aspects of the question. A number of transmission experiments in regard to scrapie were now under way. The trials with Calmette and Guérin's tuberculosis vaccine were still being continued. Opinions throughout the world about the value of the vaccine were varied. It was not yet possible to give an opinion on this subject.

Mr. W. A. Pool, M.R.C.V.S., the director of the Research Institute, said that one of the eight bureaux to be started as the result of the Imperial Research Conference was the Bureau of Animal Health, which would co-ordinate the work of the Colonial Veterinary Departments and Research Institutes and the work in this country. All Governments realised that animal disease had been very badly neglected,

and they were all ready to spend money in preventing disease. The key to prevention was research. There had been a big expansion in research facilities since the beginning of the war. That Association was one phase of the expansion. They were now in a position that they had got an ideally-situated Institute and all facilities for the work on a limited scale. At present they had ample facilities to keep a large number of research workers busy and their only difficulty was the shortage of the research staff. That would be met. They were on the threshold of big developments, and the Association would take its share. Co-operation and collaboration between other institutes was now the rule rather than the exception, and in Scotland, with the Rowett Institute for Animal Nutrition, the Department of Animal Breeding in Edinburgh University, and the new Dairy School to be set up at Auchincruive, there was a very good field for team work. The home institutes would have in the future greater opportunities of collaboration with the Colonies and for reciprocation between the different laboratories than they had in the past.

IMPORTANCE OF SOIL ORGANISMS.

Dealing with some of the diseases investigated, Mr. Pool said the braxy bacillus was a common germ of the soil and therefore a common germ of the intestinal tract of animals. He had the feeling that perhaps they had neglected the importance of some of the other germs of the soil, and by carrying out more work on research into the presence of such organisms they might throw more light on the nature of the disease and therefore on the methods of prevention. Lamb dysentery had got to the satisfactory stage that they really understood the cause, the manner in which the disease was set up, and the methods of dealing with the disease. The next few years would have to show which were the best methods. A great deal more could be done in controlling lamb dysentery if people followed the ordinary sanitary precautions. "Grass sickness" was their most difficult problem, because they were really no nearer yet to finding the actual cause of the disease. They had been fortunate in getting together a large team of collaborators from the various departments of the University and elsewhere, who were all interested, and helped them where they could. At present they could explain how the symptoms arose. There was quite definitely poison at work, and they had to throw light on the nature of the poison; but it would be a long, arduous investigation, and they would only get the truth by going at it systematically, studying one aspect after another. They had started intensively on louping-ill, which had been left out of their programme for three years.

They had been asked by the Ministry of Agriculture to investigate transit fever in cattle. Apparently that had been the cause of enormous loss in the north-east of Scotland. The Ministry were very emphatic that transit fever did not occur in England. He was not sure that that was quite correct. They made some preliminary inquiries, and, as far as he could see, there was no evidence that any specific disease was brought into the north-east of Scotland or any other area from Ireland or the Orkney and Shetland Islands. Indications were quite strong that the disease these animals contracted on arrival at the home farms was due to privations, hunger, thirst, and having been crowded together in the holds of ships and exposed to wind and rain—more or less like colds in human beings. There had been a fair number of instances where those brought-in animals had spread the disease to other animals on the farm, but that was not proof that they had brought this specific disease from the farms of origin. He did not think transit fever was one distinct disease. It might have several causes. That being the case, he reported that he did not see any use in starting a six months' or a year's investigation. If they were to start at all they ought to put some one on for a three years' inquiry. That would require funds. At present they were asking for a small amount of money so that a report could be made on the hygienic aspect of the question, and after that to consider whether they ought to start on a three years' pathological inquiry.

From The Veterinarian, February, 1829.

Pulmonary Consumption in the Horse.

MR. EDITOR,

I have certain reasons (they are not mingled or connected with any qualms of conscience) for witholding my name from publication with the case I now send you: you, yourself are too well acquainted with me to suspect me either of misrepresentation or fabrication; and I trust my case, anonymous as it is (which I left you beforehand, and has nothing particularly extraordinary in it), will appear in too natural a light to admit of any such reflections of the part of the reader. I do not know that any one now-a-days, denies the liability of the horse to pthisis pulmonalis, or what is vulgarly denominated "a decline": to those that do, I would submit for perusal, the "plain unvarnished" narrative I send you as an instance of it.

In October last, a gentleman purchased a three-years'old horse of a London dealer, which, at the time of sale, had the strangles, a circumstance that immediately brought it under my care. I remarked that the colt was not well formed— that it was narrow-chested, flat-sided, and (if I may so express myself) pigeon-breasted; in fact, that its foure-legs (to use a dealers' phrase) appeared both to "grow out of one and the same hole": in addition to this, I may mention that it was rather low in condition, and appeared disspirited, a state probably referable to the disorder it then had.

In the beginning of November, it had recovered from the strangles, and was considered free from disease. Up to the latter end of the same month it remained, to appearance, without any indisposition, although during the interval it had made but very little improvement in condition. It now, occasionally, was heard to cough; it was found "weak" at exercise; and the medicine which was given to it —consisting of small doses of aloes, calomel in combination with nitre—produced a diarrhœa, which continued for several days, and then only ceased from exhibiting chalk. Another circumstance worthy of mention is, that it never had been, on any one occasion, known to lie down. The supervention of the diarrhœa was accompanied with disordered appetite; but the latter returned on the cessation of the former. The pulse, however, which had been all along more frequent than was compatible with perfect health, began now to indicate the existence of continued low fever; and a very narrow watching of the flanks showed disturbance of the respiration: it was not, however, until this advanced period that the breathing had been observed to be effected. The most characteristic symptom, probably, remains to be mentioned; and that was, an offensive breath, perceived only by holding one's nose before the nostrils of the horse, so as to catch the effluvia in the expiration.

Thus, then, we have—ill and unimprovable condition; indisposition to lie down; cough; impaired appetite; disordered primæ viæ: quickened pulse; disturbed respiration, and offensive breath, as the symptoms of (what in technical language is called) pthisis pulmonalis, vulgarly, consumption or decline in horses: for this animal's lungs were beset with tubercles and vomicæ, some of which were of large size; but none of the latter having as yet burst, no efflux of matter had taken place from the nose.

The treatment consisted of venesection, blisters, rowels, and the exhibition of hellebore, in combination or not, according to circumstances, with calomel, nitre, resin, etc. I may add that there was found great trouble in keeping the legs warm, although they were constantly bandaged with flannel. No stimulants were used to them.

A VETERINARY PRACTITIONER.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Aug. 31st to Sept. 6th.—N.V.M.A. Congress at Ayr.

Aug. 19th—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C., at 4-30 p.m.

Royal (Dick) Veterinary College.

As a result of the recent voting to elect three representatives of the veterinary profession practising in Scotland to the College Board of Management, the following are the successful candidates:—Mr. G. A. M. Harle, M.R.C.V.S., Coldstream, Mr. W. Wallace Peggie, F.R.C.V.S., Biggar, and Mr. Peter Wilson, M.R.C.V.S., Lanark.

Major Rees-Mogg and the Warwickshire Show.

Warwickshire Agricultural Society, whose annual show opened at Stratford-on-Avon on July 24th, has a veterinarian, and a Stratford man, Major Graham Rees-Mogg, for its president this year. The *Birmingham Post* speaks of Major Rees-Mogg as "a president who has exerted himself to the uttermost to lift the exhibition to a distinctive place in the records of the organisation." "His efforts have not been unavailing," proceeds the *Post*, "for, although the entries at the record Coventry show in 1922 are not likely to be exceeded in a hurry, there is a better total than at the two previous shows."

The president, with a cow which won for him at Gloucester, headed a good class amongst the Friesians, the quality of which was described as equal to that seen at the "Royal" in some classes. Indeed, in the opinion of the *Post* writer, if she had not been calved so long she might well have gone to Harrogate, and won there.

R.A.V.C. Journal.

The Committee of Management of the *Journal of the Royal Army Veterinary Corps*, acknowledge, with thanks, receipt of subscriptions to that publication from the undermentioned:—

Fifth List.

Major T. F. Arnold, Major H. Bone, M.C., Captain H. Dimes, Major G. V. Golding, Major F. C. Gavin, D.S.O., Major W. B. Howe, Major H. E. A. L. Irwin, Captain H. Jerrom, Major H. Kirby, D.S.O., Colonel C. J. Marshall, Lt.-Colonel W. A. McDougall, D.S.O., O.B.E., F.R.C.V.S., Major E. S. W. Peatt, O.B.E., F.R.C.V.S., Veterinary-Major G. B. C. Rees-Mogg, O.B.E., F.R.C.V.S., Major J. N. Ritchie, Royal (Dick) Veterinary College Contingent O.T.C., Major G. K. Shaw, Major P. S. Sparling, Colonel R. J. Stordy, C.B.E., D.S.O., and Captain F. J. Sheedy, M.B.E.

R.C.V.S. Obituary.

Burr, J. P., Church Street, St. Neots. Graduated, London, 16th December, 1892. Died, 10th August, 1929, age 59.

. . . . . .

Thompson, S. R., Chichester Street, Belfast. Graduated, Glasgow, 27th May, 1890. Died, 5th August, 1929.

The death of Mr. Thompson occurred suddenly on the morning of Monday, 5th August, at his residence in Chichester Street. He was a native of the Crumlin district, but for many years had practised in Belfast. He leaves a widow, two sons and a daughter.

. . . . . .

Ellison, Arthur, Scriven House, Harrogate. Graduated, N. Edinburgh, 20th December, 1892. Died, 6th August, 1929, age 58.

Mr. Arthur Ellison died after a short illness. He was a President of the Yorkshire Veterinary Society in 1926, and was for some years a veterinary inspector under the West Riding County Council. He was veterinary surgeon to the Harrogate Agricultural Society, and at the recent Royal Show one of the honorary veterinary surgeons of the Royal Agricultural Society. A keen sportsman, he formerly hunted regularly with the Bramham Moor and the York and Ainsty Hunts.

He served throughout the war in the R.A.V.C., mostly in France. Though taking no active part in politics, he was a strong Conservative and a member of the Harrogate Conservative Association. He was a native of Oakworth, Keighley, and before settling in Harrogate 30 years ago had practised in that district, and also in Manchester.

He leaves a widow (daughter of the late Mr. William Walsh, of Gilstead, Bingley), a son, and two daughters.

The funeral took place at Harlow Cemetery on Saturday, 10th August, and was preceded by a service at Christ Church. The following members of the profession were present:—Messrs. F. C. Scott (Pontefract), G. E. Bowman, H. G. Bowes, A. McCarmick, W. Crawford (Leeds), D. Hamilton, W. Hamilton, R. S. Smyth (Harrogate), A. Gentle (Otley), W. A. Campbell (Boroughbridge), and G. Edmundson (Middleham).

Death.

Inglis. At 12 Bedford Place, Alloa, on the 9th inst., Gladys Howison Liddell, wife of George Inglis, M.R.C.V.S. Funeral private.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents

The Treatment of Equine Piroplasmosis in India.

To the Editor of The Veterinary Record.

Sir,—In your issue of August 10th, Brigadier A. J. Williams has pointed out an error on page 192 of "Diseases of Animals in Tropical Countries," for which I am responsible.

In expressing my regret and my sincere apology, I should like to say that every credit should be given to Brigadier Williams for instituting the successful treatment of piroplasmosis in horses in India by the intravenous injection of quinine hydrobromide.

Although I connected his name with the use of quinine hydrochloride instead of quinine hydrobromide I trust the mistake will not be regarded as very serious. In a future edition of the book it will be rectified.

In writing from memory the confusion in my mind arose from the fact that I have used the hydrochloride salt with equal success, and it has the advantage of being cheaper and more soluble in water than the hydrobromide.

Yours faithfully, G. K. Walker, Col. I.V.S. (retd.).

Abingdon.

13*th August*, 1929.

The Veterinary School of Liverpool University.

To the Editor of The Veterinary Record.

Sir,—The graduates of the Liverpool University Veterinary School will, I am sure, appreciate the letter of Dr. Tom Hare. It is rather a pity all the graduates of the School were not invited to the opening of the new Hospital. It would not have been much trouble and would have incurred very little expense, and I feel sure every one of us would have made a big effort to be present.

Yours faithfully, J. P. Railton.

Ashfield,

Builth Wells,

12*th August*, 1929.

The Editor acknowledges the receipt of the following:—

Communication from Mr. W. A. Pool (Edinburgh).

Report of Meeting of Yorkshire Division, N.V.M.A., from Mr. S. Sharp, Hon. Secretary.